

CLAIMS

1. A method for point-to-multipoint communication on a communications network, comprising

receiving at a radio access network a first downlink packet stream addressed to a first mobile recipient,

checking whether the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, and

if the first downlink packet stream is not associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, allocating new radio resources for said first downlink stream, or

if the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second mobile recipient located in the same radio cell as said first mobile recipient, allocating no new radio resources for the first downlink packet stream but instructing said first mobile recipient to receive said second downlink packet stream over said already reserved radio resources.

2. A method as claimed in claim 1, wherein said step of receiving comprises receiving said first and second downlink packet streams from a group server controlling said group communication.

3. A method as claimed in claim 1 or 2, wherein the radio access network requests an originator of said first and second downlink packet streams to suppress said first downlink packet stream, if the first mobile recipient is instructed to receive the radio resources already reserved for another mobile recipient located in the same cell.

4. A method as claimed in claim 1 or 2, wherein said packets contain speech information.

5. A method as claimed in claim 1 or 2, wherein said packets are Internet Protocol (IP) packets.

6. A method as claimed in claim 1 or 2, wherein said packets contain speech information according to Voice over IP (VoIP) recommendations.

7. A method for point-to-multipoint communication on a communications network, comprising

receiving at a group server controlling group communication a single uplink packet stream from a sending party of said group communication, said uplink packet stream being addressed to said group server and containing information that associates it with said group communication,

multiplying said uplink packet stream into at least two downlink packet streams, each of which is individually addressed to one recipient of said group communication,

sending said downlink packet streams to the radio access network or networks serving the recipients of the group communication,

receiving at a radio access network a first downlink packet stream addressed to a first mobile recipient,

checking whether the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, and

if the first downlink packet stream is not associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, allocating new radio resources for said first downlink stream, or

if the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second mobile recipient located in the same radio cell as said first mobile recipient, allocating no new radio resources for the first downlink packet stream but instructing said first mobile recipient to receive said second downlink packet stream over said already reserved radio resources.

8. A method as claimed in claim 7, wherein the radio access network requests an originator of said first and second downlink packet streams to suppress said first downlink packet stream, if the first mobile recipient is instructed to receive the radio resources already reserved for another mobile recipient located in the same cell.

9. A method as claimed in claim 7, wherein said packets contain speech information.

10. A method as claimed in any one of claims 7 to 9, wherein said packets are Internet Protocol (IP) packets.

11. A method as claimed in any one of claims 7 to 9, wherein said packets contain speech information according to Voice over IP (VoIP) recommendations.

12. A mobile communications system comprising means for receiving a first downlink packet stream addressed to a first mobile recipient,

means for checking whether the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, and

means responsive to the first downlink packet stream not being associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, for allocating new radio resources for said first downlink stream, or

means, responsive to the first downlink packet stream associated with group communication which has already reserved downlink radio resources for a second mobile recipient located in the same radio cell as said first mobile recipient, for allocating no new radio resources for the first downlink packet stream but instructing said first mobile recipient to receive said second downlink packet stream over said already reserved radio resources.

13. A system as claimed in claim 12, comprising means for sending to an originator of said first and second downlink packet streams a message commanding the originator to suppress said first downlink packet stream, if the first mobile recipient is instructed to receive the radio resources already reserved for another mobile recipient located in the same cell.

14. A system as claimed in claim 12 or 13, wherein said packets are Internet Protocol (IP) packets.

15. A system as claimed in claim 14, wherein said packets contain speech information according to Voice over IP (VoIP) recommendations.

16. A network element controlling radio resources in a radio access network receiving downlink packet streams addressed to mobile recipients located within said radio access network, wherein

    said network element, which is responsive to receiving at the radio access network a first downlink packet stream addressed to a first mobile recipient, checks whether the first downlink packet stream is associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient,

    said network element, which is responsive to the first downlink packet stream not being associated with group communication which has already reserved downlink radio resources for a second downlink packet stream of a second mobile recipient located in the same radio cell as said first mobile recipient, allocates new radio resources for said first downlink stream, and

    said network element, which is responsive to the first downlink packet stream being associated with group communication which has already reserved downlink radio resources for a second mobile recipient located in the same radio cell as said first mobile recipient, allocates no new radio resources for the first downlink packet stream but instructs said first mobile recipient to receive said second downlink packet stream over said already reserved radio resources.

17. A network element for managing packet mode group communication, said network element being provided in a data network overlaying a

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radio access network, comprising

. means for receiving a single uplink packet stream from a sending party of group communication, said uplink packet stream being addressed to said network element and containing information that associates it with said group communication,

means for multiplying said uplink packet stream into at least said first and second downlink packet streams, each of which is individually addressed to one recipient of said group communication and contains additional information indicating to the radio access network that the stream is associated with the specific group communication

means for sending each of said downlink packet streams to the radio access network or networks serving the recipients of the group communication.

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